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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,418	05/13/2005	Edouard S.P Bouvier	60009US(49991)	4955

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EDWARDS & ANGELL, LLP  
P.O. BOX 55874  
BOSTON, MA 02205

EXAMINER
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ARNOLD, ERNST V

ART UNIT	PAPER NUMBER
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1616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	01/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/516,418	<b>Applicant(s)</b> BOUVIER ET AL.	
	<b>Examiner</b> Ernst V. Arnold	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45, 62-65, 95-101, 106-113 and 117 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-45, 62-65, 95-101, 106-113 and 117 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

Claims 46-61, 66-94, 102-105, 114-116 and 118-122 have been cancelled. The Examiner notes that claim 58 remains listed as original.

Upon re-consideration and better understanding of the vast scope of the relevant prior biological art, the Examiner is hereby further restricting the application. The need for further restriction arises from the Examiner's initial search and finding the art recognized differences between the species recited in the claims. A search of a lipophilic protein will not necessarily encompass the other claimed proteins and peptides. For example, receptors are different from lipophilic proteins, which are different from proteolytic proteins, which are different from peptides because each has different functions and different structures. For example, myoglobin stores oxygen while trypsin is used in protein digests and insulin regulates carbohydrate metabolism. Furthermore, the Examiner has learned that a search for one biological sample does not encompass the search for other biological samples. For example, cell culture supernatants (US 5,154,931) are different from biological tissues (US 6,017,692), which are different from biological fluids (US 5,525,519), which are different from inclusion bodies (US 4,797,474), which are different from biological matrices (US 6,340,477), which are different from embedded tissue samples (US 5,672,696). Given this tremendous scope, it is necessary to further restrict this application to a single invention to which the claims will be examined. Not to do so would represent an undue search burden on the Examiner.

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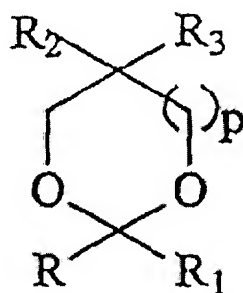
***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

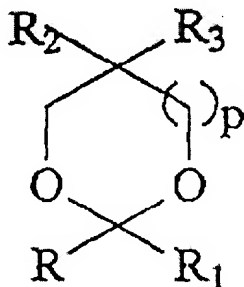
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-33, drawn to a method for enhancing a chemical reaction of a molecule comprising contacting the molecule with a surfactant represented by formula I:



Group II, claim(s) 34-45 and 62-64, drawn to a method for analysis of a biomolecule comprising enhancing a chemical reaction of the biomolecule by contacting a sample containing the biomolecule with a surfactant represented by the formula:



Group III, claim(s) 65 and 117, drawn to a kit.

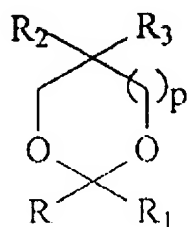
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Group IV, claim(s) 95-101, drawn to a method of capturing a lipophilic compound.

Group V, claim(s) 106-112, drawn to a method for enhancing surface desorption ionization analysis of a molecule.

Group VI, claim(s) 113, drawn to a method for enhancing chemical digestion of a biomolecule.

The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: It appears that the common special technical feature shared by the six inventions is the surfactant represented by formula I:



(I)

in which

$p$  is 0, 1 or 2;

$R$  is alkyl;

$R_1$  and  $R_2$  are each, independently, hydrogen or methyl; and

$R_3$  is selected from  $-\text{OSO}_3^-$ ,  $-\text{R}_4\text{OSO}_3^-$ ,  $-\text{R}_4\text{OR}_5\text{SO}_3^-$ , and  $-\text{OR}_5\text{SO}_3^-$ ,

wherein  $R_4$  and  $R_5$  are each, independently, lower alkyl;

Kits comprising the instantly disclosed surfactant are known in the art and have been disclosed in WO 00/70334 in the IDS filed on 11/29/2004 (Claim 8). Since the kit comprising the instantly claimed surfactant is known in the art then Unity of Invention does not exist and restriction between the inventions is deemed appropriate.

### Election

Applicant is required, dependent upon the election of an invention, to further elect for purposes of examination:

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- (1) a biomolecule from: a) a lipophilic protein; b) a receptor/membrane bound protein; c) a proteolytic protein and d) a peptide;
- (2) a biological sample from: a) inclusion bodies; b) biological fluids; c) biological tissues; d) biological matrices; e) embedded tissue samples; and f) cell culture supernatants;
- (3) a type of analysis (see claims 8 or 41);
- (4) surfactant is or is not degraded;
- (5) a protease from: a) trypsin; b) chymotrypsin Lys-C; c) Glu-C (V8 protease); d) AspN; e) Arg-C; f) S. Aureus; g) clostripain; h) pepsin; and l) papain;
- (6) the presence or absence of SDS.

A telephone call was made to Dwight Kim on 1/19/07 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernst V. Arnold whose telephone number is 571-272-8509. The examiner can normally be reached on M-F (6:15 am-3:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ernst Arnold  
Patent Examiner  
Technology Center 1600  
Art Unit 1616

A handwritten signature in black ink, appearing to read 'Johann Richter', with a long horizontal line extending to the right.

Johann Richter, Ph.D. Esq.  
Supervisory Patent Examiner  
Technology Center 1600